

CURRENT STATUS OF THE CLAIMS

In the Claims

The following is a marked-up version of the claims with the language that is underlined (“ ”) being added and the language that contains strikethrough (“”) being deleted:

1. (Original) A method for determining the presence of biomolecules using a surface-enhanced Raman spectroscopy (SERS) system, comprising:
 - providing a first target biomolecule, a first target nanoparticle, and a first detector nanoparticle;
 - forming a first detector complex electrochemically on a conductive substrate, wherein the first detector complex includes the first target biomolecule, the first target nanoparticle, and the first detector nanoparticle, wherein the first detector nanoparticle is disposed on the first target nanoparticle, wherein the first target nanoparticle is disposed on the first target biomolecule, and wherein the first target biomolecule is disposed on the conductive substrate;
 - directing a laser at the first detector complex, wherein the interaction of the laser with the first detector complex produces a SERS signal specific for the first target biomolecule; and
 - detecting the SERS signal.
2. (Original) The method of claim 1, wherein forming a first detector complex electrochemically, comprises:
 - forming a first target complex that includes the first target biomolecule and the first target nanoparticle; and
 - disposing the first target complex onto the first conductive substrate.

3. (Original) The method of claim 1, wherein forming a first detector complex electrochemically, comprises:
 - disposing the first target biomolecule onto the first conductive substrate;
 - contacting the first target nanoparticle with the first target biomolecule; and
 - forming a first target complex on the first conductive substrate, wherein the first target complex includes the first target biomolecule and the first target nanoparticle.
4. (Original) The method of claim 1, wherein the first target nanoparticle includes a gold nanoparticle.
5. (Original) The method of claim 1, wherein the first detector nanoparticle includes a silver nanoparticle.
6. (Original) The method of claim 1, wherein forming a first detector complex, comprises:
 - applying a voltage to the first conductive support.
7. (Original) The method of claim 1, wherein forming a first detector complex comprises:
 - contacting the first conductive substrate to a foreign conductive structure to cause the reduction of the first detector nanoparticles onto the first target nanoparticle.

8. (Original) The method of claim 1, wherein a first marker molecule is attached to the first target biomolecule.
9. (Original) The method of claim 1, wherein a first marker molecule is attached to the first target nanoparticle.
10. (Original) A method for determining the presence of biomolecules using a surface-enhanced Raman spectroscopy (SERS) system, comprising:
 - providing a first target biomolecule;
 - providing a first target nanoparticle;
 - forming a first target complex that includes the first target nanoparticle and the first target biomolecule disposed on a first conductive substrate;
 - providing a solution of first detector nanoparticles;
 - causing the first target complex to contact the solution of first detector nanoparticles;
 - catalyzing the deposition of the first detector nanoparticles on the first target complex;
 - forming a first detector complex that includes the first detector nanoparticle disposed on the first target complex;
 - directing a laser at the first detector complex, wherein the interaction of the laser with first detector complex produces a SERS signal specific for the first target biomolecule; and
 - detecting the SERS signal.

11. (Original) The method of claim 10, wherein catalyzing comprises:
applying a voltage to the first conductive support.
12. (Original) The method of claim 11, wherein the voltage is applied using a potentiostat.
13. (Original) The method of claim 10, wherein catalyzing comprises:
contacting the first conductive substrate to a foreign conductive structure to
cause the reduction of the first detector nanoparticles onto the first target
nanostructures.
14. (Original) The method of claim 10, wherein forming a first target complex comprises:
forming the first target complex prior to being disposed on the first conductive
substrate.
15. (Original) The method of claim 10, wherein forming a first target complex comprises:
forming the first target complex by contacting the first target nanoparticle with
the first target biomolecule that is disposed on the first conductive substrate.
- 16-25. (Canceled)